

REMARKS

Favorable reconsideration is respectfully requested.

Upon entry of the above amendment, the claims will be 6 to 11 with claims 10 and 11 withdrawn from consideration.

The above amendment incorporates the features of claims 12 to 15 into claim 6.

Further, Lu is now recited in the group lanthanides in claims 8 and 9. Support is evident from Example 1 on page 7, line 5 of the present specification.

The significance of this amendment will be discussed below.

Claims 6 to 9 and 12 to 15 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 to 4 of copending application Serial No. 10/483,796.

In reply, there is submitted herewith a Terminal Disclaimer which disclaims the terminal portion of any patent maturing from the present application which extends beyond the expiration date of any patent maturing from Serial No. 10/483,796.

Incidentally, copending application Serial No. 10/483,796 no longer contains claims 1 to 4.

Claims 6 to 9 and 12 to 15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (U.S. 6,706,431).

This rejection is respectfully traversed.

Above-amended claim 6 now recites "methane adsorptivity". Kawamura et al. discloses explicitly in column 4, lines 50 to 60 that by adding a functional catalyst, such as platinum, group metals or another carbon family substance, the compound can be used to produce very functional electrodes, or the compound can be used to store hydrogen.

However, Kawamura et al. discloses neither a single walled carbon nanohorn deposited with the lanthanide metal nor the applicability of any of the single walled carbon nanohorns deposited with the lanthanide metal, fullerene, carbon nanotube, carbon nanohorn, carbon nanofiber, metal encapsulated fullerene, and the like, to a methane adsorptivity material.

Kawamura et al. in column 4, lines 15 to 20, relied on by the rejection, merely relates to carbon nanotubes or metal encapsulated fullerenes, as alternatives, to generate active hydrogen in

a fuel cell system. Nowhere is it disclosed or implied that the carbon nanotubes have metal deposited thereon.

In column 4, lines 45 to 50, relied on by the rejection, reference is made to fullerenes and their ability to encapsulate metals such as lanthanum.

If encapsulated, it is not clear how this would result in a carbon nanohorn with a lanthanide metal deposited thereon.

The rejection appears to be based on some theory of inherency wherein lanthanum filled fullerenes are somehow glued together with nanohorns, however, this is a concept which is nowhere disclosed by Kawamura et al.

Further, inherency and obviousness are entirely different concepts as pointed out by *In re Rinehart*, 189 USPQ 143 at 148[9] (CCPA 1976).

It would not be obvious to one of ordinary skill in the art from Kawamura et al.'s teaching of a fullerene added with a platinum group metal as a hydrogen adsorbing material, that a single walled nanohorn adsorptive material deposited with a lanthanide metal can be used as a methane adsorptive material.

In fact, where a lanthanide metal is disposed on activated carbon fiber, see Fig. 2 of the present specification, it is confirmed that the density of adsorbed methane is not increased.

On the other hand, the present invention is based on the discovery that the deposition of a lanthanide metal on a single walled carbon nanohorn increases the density of the density of methane adsorbed.

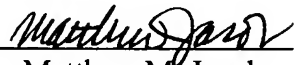
For the foregoing reasons, it is apparent that the rejection on Kawamura et al. is untenable and should be withdrawn.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Sumio IIJIMA et al.

By: 
Matthew M. Jacob
Registration No. 25,154
Attorney for Applicants

MJ/aas
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
May 29, 2008